



SHEET 1 OF 3

MACTEC PROJECT NO.: 6468-06-1472					COUNTY Louisa, VA					GEOLOGIST S. Lehman						
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)						
BORING NO. B-908			DRILL METHOD: Rotary Wash/Core			SAMPLE METHODS: SPT/CORE			0 HR. 16.0							
COLLAR ELEV. 307.7 ft (NAVD88)			NORTHING 3,909,717			US ft (NAD83)			EASTING 11,686,061			US ft (NAD83)		24 HR. 17.1		
TOTAL DEPTH 151.4 ft			DRILL MACHINE CME 55LC Track			DRILLER: F. Cox			HAMMER TYPE 140 lbs Auto							
DATE STARTED 9/13/06					COMPLETED 9/18/06					CORE BARREL TYPE: HQ 3 triple tube-wireline						
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION				
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100						
307.7					Ground Surface							307.7	0.0			
306.2	1.5										908-1		Silty, fine to medium SAND (SM) olive yellow (2.5Y 6/6) dry, medium dense (Residual Soil)			
304.2	3.5	11	11	12							908-2		304.2	3.5		
301.7	6.0	28	13	9							908-3		302.7	5.0		
299.2	8.5	6	6	5							908-4		GRAVEL (GM) boulder of Weathered Rock: Light brown, very severely weathered, very soft to hard, GNEISS			
296.7	11.0	4	6	7							908-5		Silty, fine to medium SAND (SM) strong brown to light yellowish brown (2.5Y 6/4) dry to moist, medium dense, saprolitic (Residual Soil)			
294.2	13.5	3	4	8							908-6					
		7	6	5									291.7	16.0		
289.0	18.7	2	5	5							908-7		SILT (ML) yellowish brown (10YR 5/6) moist, stiff, sandy (Residual Soil)			
284.0	23.7	5	6	9							908-8		286.7	21.0		
													Silty, fine SAND (SM) dark yellowish brown (10YR 4/6), moist, medium dense, (Residual Soil)			
279.0	28.7	49	50/0.5								908-9		280.7	27.0		
274.1	33.6	50/0.3									908-10		Weathered Rock: sampled as SAND (SW), brownish yellow (10YR 6/6) to strong brown (7.5YR 5/6), moist, very dense, fine to coarse grained, Fe stained (GNEISS)			
269.1	38.6	48	50/0.3								908-11					
264.1	43.6	50/0.3									908-12		261.2	46.5		
259.1	48.6	15	28	32							908-13		Silty, fine SAND (SM) olive brown (2.5Y 4/4), moist, very dense (Residual Soil)			
254.1	53.6	28	50/0.2								908-14		256.2	51.5		
249.1	58.6	50/0.2									908-15		Weathered Rock: sampled as silty SAND (SM) dark yellowish brown (10YR 4/6), light reddish brown to light gray, moist, very dense, severely weathered, soft to moderately hard, GNEISS			
													245.0	62.7		
													Hard Rock: Light gray with orange Fe staining, moderately severe to slightly weathered, close to moderately close fracturing, soft to moderately hard, QUARTZ GNEISS with biotite			

NORTH ANNA COL CORE NORTH ANNA COL DATA REPORT REV0.GPJ NORTH ANNA COL GDT 1/19/07



MACTEC PROJECT NO.: 6468-06-1472										COUNTY Louisa, VA					GEOLOGIST S.Lehman				
SITE DESCRIPTION NORTH ANNA COL															GROUND WATER (ft) 0 HR. 16.0 24 HR. 17.1				
BORING NO. B-908					DRILL METHOD: Rotary Wash/Core					SAMPLE METHODS: SPT/CORE									
COLLAR ELEV. 307.7 ft (NAVD88)					NORTHING 3,909,717 US ft (NAD83)					EASTING 11,686,061 US ft (NAD83)									
TOTAL DEPTH 151.4 ft					DRILL MACHINE CME 55LC Track					DRILLER: F. Cox					HAMMER TYPE 140 lbs Auto				
DATE STARTED 9/13/06					COMPLETED 9/18/06					CORE BARREL TYPE: HQ 3 triple tube-wireline									
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT						SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION					
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100									
232.9					Continued from previous page														
														231.3	76.4 Hard Rock: Light gray, moderately weathered to fresh, close to wide fracturing, medium hard to hard, QUARTZ GNEISS with biotite				
														206.3	101.4				
														204.0	103.7 Weathered Rock: Severely weathered, BIOTITE GNEISS (No recovery)				
														201.3	106.4 Hard Rock: Dark gray, moderately severe to slightly weathered, close fracturing, soft to moderately hard, BIOTITE GNEISS				
															193.0 192.4 Hard Rock: Light to dark gray, fresh, wide fracturing, hard, QUARTZ-BIOTITE GNEISS				
															114.7 115.3 Weathered Rock: Severely weathered, BIOTITE GNEISS (No recovery) Hard Rock: Light to dark gray with pink, slightly weathered to fresh, close to wide fracturing, moderately hard to hard, QUARTZ-BIOTITE GNEISS with trace pyrite and magnetite				

NORTH ANNA COL LOG NORTH ANNA COL DATA REPORT REV0.GPJ NORTH ANNA COL.GDT 1/19/07



SHEET 3 OF 3

MACTEC PROJECT NO.: 6468-06-1472				COUNTY Louisa, VA				GEOLOGIST S.Lehman					
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)			
BORING NO. B-908		DRILL METHOD: Rotary Wash/Core				SAMPLE METHODS: SPT/CORE				0 HR. 16.0			
COLLAR ELEV. 307.7 ft (NAVD88)		NORTHING 3,909,717		US ft (NAD83)		EASTING 11,686,061		US ft (NAD83)		24 HR. 17.1			
TOTAL DEPTH 151.4 ft		DRILL MACHINE CME 55LC Track				DRILLER: F. Cox				HAMMER TYPE 140 lbs Auto			
DATE STARTED 9/13/06				COMPLETED 9/18/06				CORE BARREL TYPE: HQ 3 triple tube-wireline					
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100	MOI		
158.1					Continued from previous page								
												156.3	151.4
Boring and coring terminated at 151.4 ft in Hard Rock: Hard, QUARTZ-BIOTITE GNEISS													



SHEET 1 OF 2

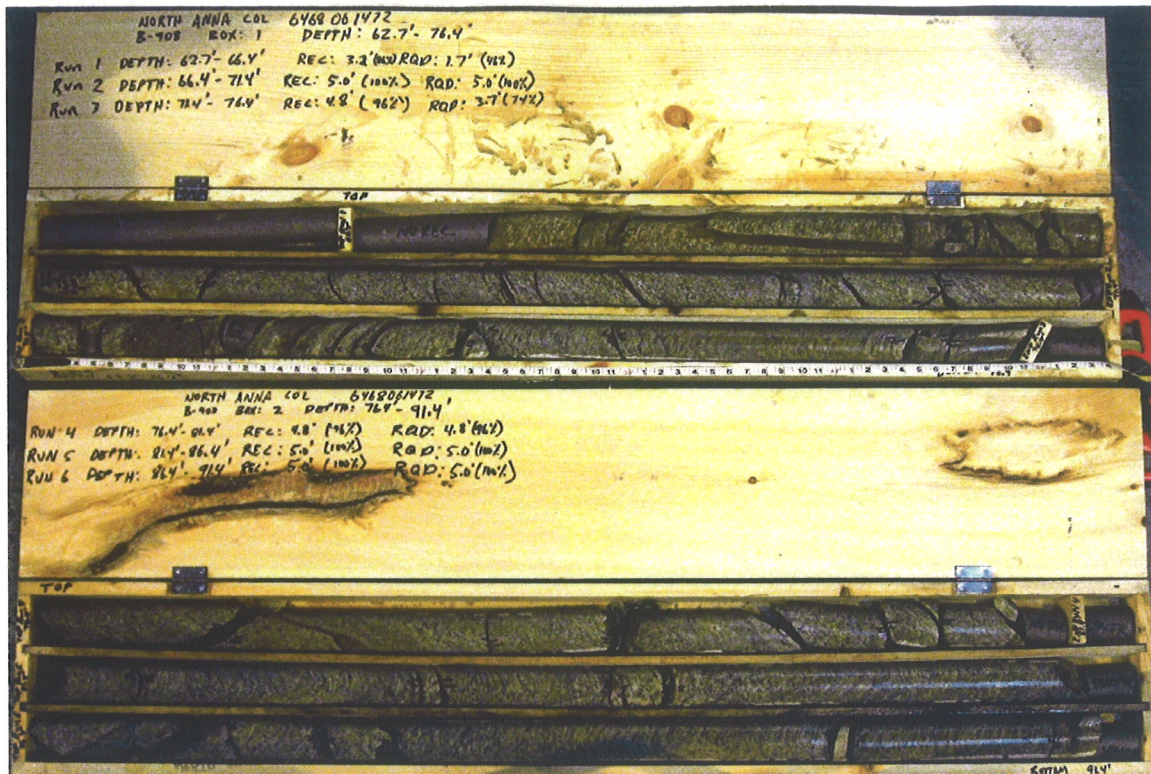
MACTEC PROJECT NO.: 6468-06-1472										COUNTY Louisa, VA					GEOLOGIST S.Lehman							
SITE DESCRIPTION NORTH ANNA COL															GROUND WATER (ft)							
BORING NO. B-908					DRILL METHOD: Rotary Wash/Core					SAMPLE METHODS: SPT/CORE					0 HR. 16.0							
COLLAR ELEV. 307.7 ft (NAVD88)					NORTHING 3,909,717 US ft (NAD83)					EASTING 11,686,061 US ft (NAD83)					24 HR. 17.1							
TOTAL DEPTH 151.4 ft					DRILL MACHINE CME 55LC Track					DRILLER: F. Cox					HAMMER TYPE 140 lbs Auto							
DATE STARTED 9/13/06					COMPLETED 9/18/06					CORE BARREL TYPE: HQ 3 triple tube-wireline												
CORE SIZE HQ3					TOTAL RUN 88.7 ft																	
ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %		RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %		RQD (ft) %	L O G	DESCRIPTION AND REMARKS										
												Begin Coring @ 62.7 ft										
245.0	62.7	3.7	2:12 3:10 3:22	(3.2) 86%	(1.7) 46%	1						245.0	Hard Rock: Light gray with orange Fe staining, moderately severe to slightly weathered, close to moderately close fracturing, soft to moderately hard, QUARTZ GNEISS with biotite									
241.3	66.4		2:47/0.7	(5.0)	(5.0)	UC-67.5'							(2 joints at 20° with trace clay and Fe stain; 1 joint at 85° with Fe stain; 1 joint at 45° with trace clay and Fe stain)									
		5.0	3:05 2:46 2:39 2:31 2:34	100%	100%								(1 joint at 40° and 2 joints at 20° with trace clay and Fe stain)									
236.3	71.4			(4.8)	(3.7)	3							(5 joints at 45° weathered with Fe stain; 1 joint at 30° weathered)									
		5.0	2:15 1:40 3:38 4:38 5:03	96%	74%																	
231.3	76.4			(4.8)	(4.8)	UCS-79.4'						231.3	Hard Rock: Light gray, moderately weathered to fresh, close to wide fracturing, medium hard to hard, QUARTZ GNEISS with biotite									
		5.0	3:50 2:50 2:20 2:50 2:21	96%	96%								(1 joint at 80° with Fe stain; 2 joints at 40° with trace clay and Fe stain)									
226.3	81.4			(5.0)	(5.0)	5							(1 joint at 45° weathered)									
		5.0	2:28 2:13 2:15 2:38 3:08	100%	100%																	
221.3	86.4			(5.0)	(5.0)	6							(1 joint at 60°)									
		5.0	2:04 1:52 2:16 2:04 1:50	100%	100%																	
216.3	91.4			(4.9)	(4.9)	UC-96.0'							-No Joints, slightly weathered in biotite rich zones at 91.6 ft and 93.1 ft									
		5.0	2:22 1:52 2:02 2:25 2:36	98%	98%																	
211.3	96.4			(4.8)	(3.9)	8							(2 joints at 20° with Fe stain; 3 joints at 40° weathered)									
		5.0	2:07 2:18 3:00 2:30 2:40	96%	78%																	
206.3	101.4			(2.5)	(0.8)	9						206.3	Weathered Rock: Severely weathered, BIOTITE GNEISS (No recovery)									
		5.0	1:42 1:35 2:04 2:04 2:12	50%	16%							204.0	Hard Rock: Dark gray, moderately severe to slightly weathered, close fracturing, soft to moderately hard, BIOTITE GNEISS									
201.3	106.4			(5.0)	(5.0)	10						201.3	Hard Rock: Light to dark gray, fresh, wide fracturing, hard, QUARTZ-BIOTITE GNEISS									
		5.0	1:48 2:20 2:36 3:04 3:40	100%	100%								-No Joints									
196.3	111.4			(3.2)	(3.2)	UC-112.7'							(1 joint at 30° slightly weathered)									
		3.3	3:40 3:03 3:04	97%	97%																	
193.0	114.7			(0.0)	(0.0)	12						193.0	Weathered Rock: Severely weathered, BIOTITE GNEISS (No recovery)									
192.4	115.3	0.6	1:21/0.3 4:54/0.7	0%	0%	13						192.4	-No recovery									
191.3	116.4	1.1	3:45/1.1	(1.1)	(1.1)	14							Hard Rock: Light to dark gray with pink, slightly weathered to fresh, close to wide fracturing, moderately hard to hard, QUARTZ-BIOTITE GNEISS with trace pyrite and magnetite									
		5.0	3:51 3:52 4:00 3:24 2:50	100%	100%								(1 joint at 30° slightly weathered and Fe stained)									
186.3	121.4			(5.0)	(5.0)	15							-No Joints									
		5.0	3:01 2:34 2:49 3:25 2:25	100%	100%								(1 joint at 45° slightly weathered)									
181.3	126.4			(5.0)	(5.0)	16							-No Joints									
		5.0	2:45 3:11 3:08 3:15 3:48	100%	100%																	
176.3	131.4			(5.0)	(5.0)	UCS-135.7'							(1 joint at 45° and 1 joint at 80° both slightly weathered; quartz vein with pyrite and chlorite at 131.8 ft)									
		5.0	5:13 3:17 2:28 2:42 2:35	100%	100%																	
171.3	136.4			(5.0)	(5.0)	18							-No Joints									
		5.0	2:56																			

NORTH ANNA COL. SE NORTH ANNA COL DATA REPORT REV0.GPJ NORTH ANNA COL.GDT 1/19/07



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SITE DESCRIPTION NORTH ANNA COL									GROUND WATER (ft)
BORING NO. B-908		DRILL METHOD: Rotary Wash/Core			SAMPLE METHODS: SPT/CORE				0 HR. 16.0
COLLAR ELEV. 307.7 ft (NAVD88)		NORTHING 3,909,717		US ft (NAD83)		EASTING 11,686,061		US ft (NAD83) 24 HR. 17.1	
TOTAL DEPTH 151.4 ft		DRILL MACHINE CME 55LC Track			DRILLER: F. Cox			HAMMER TYPE 140 lbs Auto	
DATE STARTED 9/13/06			COMPLETED 9/18/06			CORE BARREL TYPE: HQ 3 triple tube-wireline			
CORE SIZE HQ3			TOTAL RUN 88.7 ft						
ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	REC. (ft) %	RQD (ft) %	SAMP. NO.	REC. (ft) %	RQD (ft) %	LOG
Continued from previous page									
166.3	141.4		2:52 2:50 2:35 2:30	100%	100%				
		5.0	2:26 2:30 2:35 3:02 3:21	(5.0) 100%	(5.0) 100%	19			
161.3	146.4								
		5.0	3:39 4:12 3:45 3:44 3:38	(5.0) 100%	(5.0) 100%	UC-146.8'			
156.3	151.4								156.3
Coring terminated at 151.4 ft in Hard Rock: Hard, QUARTZ-BIOTITE GNEISS									

NORTH ANNA COL CORE NORTH ANNA COL DATA REPORT REV0.GPJ NORTH ANNA COL.GDT 1/19/07



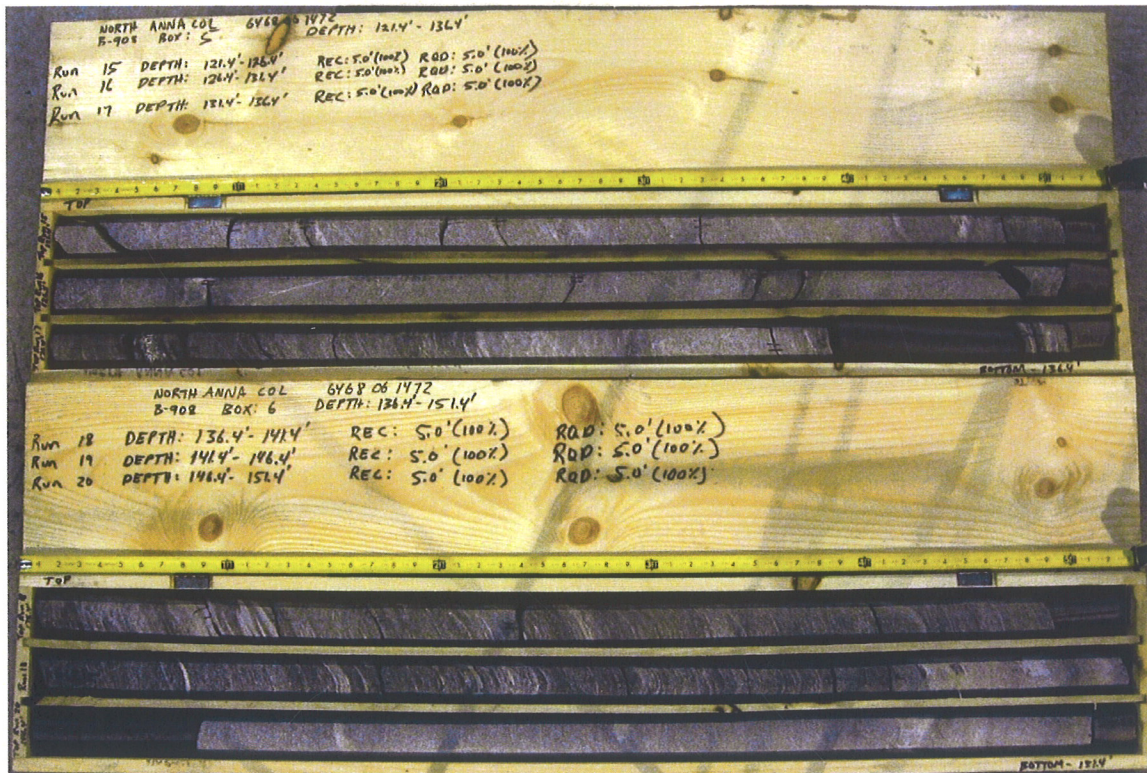
B-908 - Box 1

B-908 - Box 2



B-908 - Box 3

B-908 - Box 4



B-908 – Box 5

B-908 – Box 6